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SELECTED TRANSLATIONS OF
ABSTRACTS IN REFERATIVNYY ZHURNAL - BIOLOGIYA, No. 2, 1959

This report consists of complete translations of the Russian-language abstracts of articles which were originally published in the Sino-Soviet bloc and in Yugoslavia.

The subject classification system used in the Russian-language abstracts has been followed in this publication.

USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6026.

Author : Veklich, M. F.

Inst : Institute of Geological Sciences, Academy of Sciences Ukrainian SSR.

Title : Loess Rocks in the Eastern Part of Pravoberezhnaya Elevation the Right Bank of the Dnepr River.

Orig Pub: Tr. In-ta geol. nauk AN USSR, Ser. geomorfol. i chetvertich chetvertichn. geol., 1957, vyp. 1, 48-58.

Abstract: Within the limits of Pravoberezh'ye the land along the right bank of the Dnepr River, the glacial and near-glacial regions are distinguished in the loess rock distributed in supermorainic and submorainic deposits. The submor-

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USSR / Soil Science. Soil Genesis and Geography.

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6026.

Abstract: ainic deposits are of diluvial and eluvial-diluvial origin. The supermorainic loess is covered by a mantle, and as the loess rocks of the outer-glacial regions, they are genetically heterogeneous and of different ages in the different parts. Mentioned is the alluvial character of loess genesis in the Dnepr terraces. -- F. I. Shcherbak.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6027.

Author : Samodurov, P. I.

Inst : Institute of Geological Sciences, Academy of Sciences Ukrainian SSR.

Title : The Geochemical Nature of the Loess-forming Process.

Orig Pub: Tr. In-ta geol. nauk AN USSR. Ser. geomorfol. i chetvertichn. geol., 1957, vyp. 1, 131-144.

Abstract: In the loess of the the steppe regions of the Ukraine and Moldavia the freshly formed typomorphological minerals are iron montmorillonite, quartz and calcite. In the foot hills of the eastern Carpathians and the northern regions of the Russian plain there are beidellite, goethite, and hydrogoethite minerals. Approaching the

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J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6027.

Abstract: mountainous districts, the calcium carbonate content in loess diminishes and the amount of clay fraction increases, while the porosity and sagging of loess rocks decreases. After the loss of calcium carbonate by loess rocks, beidellite is synthesized which decreases sharply the content of montmorillonite. In the steppes of the southern districts of the Ukraine and Moldavia, calcium plays a significant role in the structural formation of soil bottoms, while beidellite plays an important role in the structural formation of soil bottoms in the steppe regions of the Russian plain. -- F. I. Shcherbak.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6028.

Author : Sokolovskiy, A. N.

Inst : Institute of Geological Sciences, Academy of Sciences Ukrainian SSR.

Title : The Significance of Physical-Chemical Properties of Loess For Recognition of its Genesis.

Orig Pub: Tr. In-ta geol. nauk AN USSR, Ser. geomorfol. i chetvertichn. geol., 1957, vyp. 1, 116-124.

Abstract: The optimum saturation of the absorbing complex of loess and calcium is situated in the upper horizons, while the lower horizons are significantly less saturated with exchangeable calcium and this lack of saturation is not compensated by the presence of other cations. In the author's opinion, during the time of the loess deposition

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6028.

Abstract: process and subsequently, there occurred no diagenetic phenomena connected with the water reaction. The difference in saturation of exchangeable calcium in the loess along the profile is connected with the depth of atmospheric soaking. A saturation decrease in the calcium absorbing complex was sharply pronounced at the contact zone of steady soaking with the "dead horizon".
-- V. A. Molodtsov.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6029.

Author : Moskvitin, A. I.

Inst : Institute of Geological Sciences, Academy of
Sciences Ukrainian SSR.

Title : The Loess Horizons and Causes of Interglacial
Soil Burial.

Orig Pub: Tr. In-ta geol. nauk AN USSR. Ser. geormofol. i
chetvertichn. geol., 1957, vyp. 1, 125-130.

Abstract: The stratigraphic formation of buried soils in
the upper Bug, middle Dnepr, and lower Sula-River
districts were investigated. The causes of the
burial of interglacial soils appeared to be the
movement of the bottom and the deposition of
loess deposits in the periods of glaciation and

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6029.

Abstract: and freezing periods. The buried soils divide
all basic and supplementary strata of loess and
are eluvial earth formations. F. I. Shcherbak.

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CZECHOSLOVAKIA / Soil Science. Soil Genesis and Geog- J
raphy.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6031.

Author : Pelisek, Josef.

Inst : Not given.

Title : Soils of the Boubinskiy National Forest and
Portions Occupied by Natural Forests in the
Region of the Shumava Mountains.

Orig Pub: Lesnictvi, 1958, 4, No 1, 21-38.

Abstract: Within the boundaries of the Boubinski National
Forest at an altitude of 900 - 1040 meters above
sea level there are chocolate-brown forest, peat-
gley, and humus-gley soils. Described are the
conditions of formations of these soils, their
morphology and several physical-chemical proper-

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CZECHOSLOVAKIA / Soil Science. Soil Genesis and Geog- J
raphy.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6031.

Abstract: ties of these soils. The portions occupied by
forest plantations with predominant coniferous
species (fir, spruce) are abundant in peat-formed
and humus-gley soils. Data are cited on the
mechanical composition of the soils, the pH, the
humus content in the soils and the composition
of a 20% HCl extract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6032.

Author : Dzhanpeisov, R.

Inst : Institute of Soil Science, AS Kazakh SSR.

Title : Soils of the Grain Sovkhozes of Nurinskiy Rayon
in Karagadinskaya Oblast',

Orig Pub: Tr. In-ta pochvoved. AN KazSSR, 1957, 7, 20-29.

Abstract: In the described territory of Karagadinskaya Oblast' dark-chestnut, light-argillaceous, and light-chestnut soils are prevalent. For the improvement of physical-water properties it is recommended to combine deep plowing with a colter when fallow soils are treated by the T. S. Mal'tsev method by means of fallowing, snow retarding strips, snow plows and other implements.

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6032.

Abstract: The surface treatment of these soils can only be carried out in conjunction with the periodic loosening of the condensed carbonate horizon. Widespread use of organic and green fertilizers is recommended for these soils.

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J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6033.

Author : Blintsov, I. K.

Inst : Belorussian Forest Technology Institute.

Title : Soils of the Negorel'skiy. Experimental Training Leskhoz.

Orig Pub: Sb. nauchn. tr. Belorussk. lesotekh in-ta, 1957, vyp. 10, 423-434.

Abstract: The Leskhoz is located in Dzerzhinskiy Rayon in Minskaya Oblast'. Described is the morphology and several physical-chemical properties of poorly developed turf-podzolic soils under lichen pine forests, of poor and average podzolized soils, for the most part under pine plantations, and of highly podzolized soils under

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6033.

Abstract: pine and spruce forests. Here are also found turf-podzolic-gleyey soils and gley soils, peat-bog soils, peat-muck-humus soils and alluvial-meadow soils. The most fertile soils overlie argillaceous rocks, while less fertile soils overlie sandy loam and sand rocks. -- F. I. Shcherbak.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6034.

Author : Tyurin, K. D.
Inst : Voronezh Agricultural Institute.
Title : Soils of Khrenovskiy Rayon in Voronezhskaya Oblast', Their Genesis and Ways of Further Utilization.

Orig Pub: Zap. Voronezhsk. s.-kh. in-ta, 1957, 27, No 2, 327-334.

Abstract: In the soil cover of Khrenovskiy Rayon chernozem soils, meadow-bog soils, and sclonetz soils are predominant. In the described territory conditions of soil formation, morphology, and physical-chemical properties of soils are investigated. Data is cited of the determined humus and N content in the soils, the ratio of C to N,

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6034.

Abstract: and of absorbing bases in soils, the mechanical composition and agricultural-chemical indicators of soil, and also the content of water soluble substances and substances soluble in a 10% aqueous HCl solution. Under conditions of upper river terraces, soils of the chernozem type are predominant, mainly light argillaceous soil. The occurrence of processes in which steppe grasses improve the soil on the terraces is noted. --
P. V. Shramko.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6035.

Author : Afanas'yev, G. V.

Inst : Moscow Agricultural Acad. im. K. A. Timiryazev.

Title : Soil of the South-Eastern Districts of Bol'shezemel'naya Tundra and Forest Tundra.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 31, 252-258.

Abstract: The soils of the tundra and forest tundra in the area of the city of Vorkuta are characterized by an acid reaction (pH 3.4-4.2), a total in exchangeable bases of 11.83 - 26.3 milliequivalents in the top horizons and 1.47 - 9.23 milliequivalents per 100 grams of soil in the lower horizons, a saturation level in the bases of from 18

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6035.

Abstract: to 72.3%, a humus content in the top horizon of 2.24 - 5.64%, total N 0.152 - 0.257%, K - 6.25-22.4, P_{2O_5} - 3.75-12.75 mg per 100 grams of soil. The top soil horizons are saturated with hydrogen ions. To increase the fertility of these soils it is imperative to apply lime and peat-manure compost. -- S. A. Nikitin.

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J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6036.

Author : Yakutilov, M. R.

Inst : Uzbek University.

Title : The Soil Cover of Bayram-Ali Alluvial Fan in
the Great Kara-Kum Canal Zone.

Orig Pub: Sb. stud. rabot Uzb. un-ta, 1956, vyp. 1, 91-94.

Abstract: The Bayram-Ali alluvial fan is one of the terraces in the Murgab River delta. The earth here has been irrigated in the past. It is classified as suitable for cotton after non-complex ameliorations have been applied.

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POLAND / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6037.

Author : Reimann, B.

Inst : Not given.

Title : The Dust Soil of the Ancient Obra and Szarka
River Valleys.

Orig Pub: Roczn. gleboznawcze, 1956, 5, 159-169.

Abstract: Meadow-chnozem soils are found in the ancient Obra and Szarka River valleys, in Greater Poland distinguished for their excellent physical properties. The soils are poor in nutrients, especially potassium. Potassium fertilizers are necessary for reclamation of the land under agricultural crops.

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J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6038.

Author : Ivanova, Ye. N.; Lobova, Ye. V.; Rozanov, A. N.
Inst : Not given.
Title : Survey of Works on Soil Genesis Contained in
Volume V of the Transactions of the Sixth International Congress of Soil Scientists.

Orig Pub: Pochvovedeniye, 1958, No 5, 62-70.

Abstract: No abstract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6040.

Author : Motuz, V. M.
Inst : AS Belorussian SSR.
Title : Paleogeographic Study of the Period of Loess
Formation in the Territory of the Belorussian SSR.

Orig Pub: Dokl. AN BSSR, 1957, 1, No 2, 66-68.

Abstract: No abstract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6041.

Author : Malyshkin, M. N.

Inst : Not given.

Title : An Attempt at Soil Grading in Novosibirskaya Oblast'.

Orig Pub: Pochvovedeniye, 1958, No 4; 23-30.

Abstract: No abstract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6042.

Author : Norkina, I.

Inst : Moscow Agric. Acad. im. K. A. Timiryazev.

Title : A Soil-Agrochemical Map of a Kolkhoz (In Tul'skaya Oblast').

Orig Pub: Sb. stud. nauchno-issled. rabot Mosk. s.-kh. akad. i., K. A. Timiryazeva, 1957 (1958), vyp. 7, 256-260.

Abstract: No abstract.

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BULGARIA / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6043.

Author : Andonov, T.

Inst : Not given.

Title : Mapping the Soil in Bulgaria.

Orig Pub: Priroda (Bulg.), 1957, 6, No 4, 62-65.

Abstract: No abstract.

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HUNGARY / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6044.

Author : Pausz, Laszlo.; Hadi, Jozsef.

Inst : Sarvar Sugar Plant Laboratory.

Title : Soil Studies and Surveys in the Region of the
Sarvar Sugar Plant.

Orig Pub: Cukoripar, 1957, 10, No 11-12, 191-194.

Abstract: No abstract.

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CZECHOSLOVAKIA / Soil Science. Soil Genesis and Geog-
raphy.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6045.

Author : Spirhanzl, Jar.

Inst : Not given.

Title : Soils and Genetic Types in Czechoslovakia.

Orig Pub: Lide a zeme, 1957, 6, No 1, 45-48.

Abstract: No abstract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6046.

Author : Rabochev, I. S.

Inst : Not given.

Title : Saline Soils in the Turkmen SSR and Their Re-
clamation.

Orig Pub: V sb.: Materialy Ob"yedin. nauchn. sessii po
khlopkovodstvu. T. 3. Tashkent, Gosizdat UzSSR,
1958, 200-206.

Abstract: No abstract.

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USSR / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6047.

Author : Teymurov, K.

Inst : Not given.

Title : The Part Played by Transpiration in the Restoration of Salinized Soil.

Orig Pub: Khlopkovodstvo, 1958, No 1, 57-58.

Abstract: No abstract.

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HUNGARY / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6048.

Author : Szabolc, Istvan.; Abraham, Lajos.

Inst : Not given.

Title : Saline Soils of the Lake Fertő Shore Zone.

Orig Pub: Agrokem. és talaj., 1957, 6, No 2, 99-108.

Abstract: No abstract.

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RUMANIA / Soil Science. Soil Genesis and Geography.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6050.

Author : Ionescu, N.; Popp, N.

Inst : Not given.

Title : The Soil Cover of the Duna River Delta and Rush
Cultivation.

Orig Pub: Celuloza si hirtie, 1956, 5, No 11-12, 291-304.

Abstract: No abstract.

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of Soil.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6058.

Author : Lubovskiy, K. N.

Inst : Voroshilovgrad Agric. Inst.

Title : A Modification of the Paraffin Method of Deter-
mining the Volumetric Weight of Soil.

Orig Pub: Nauchn. zap. Voroshilogradsk. s.-kh. in-ta,
1957, 4, No 2, 55-57.

Abstract: A separating funnel with a capacity of 120-130 ml
is joined by a rubber tube to a buret holding
25-50 ml and filled with water until a mark on
the control tube with a diameter of 5-7 mm, con-
nected with a T-pipe to the separating funnel.
After the paraffined soil samples have been placed
into the separating funnel, the water level is

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6058.

Abstract: brought to the mark on the control tube by raising the separating funnel. The soil volume is determined by the change in water level in the buret. The specific weight of the soil α is computed according to the formula:
 $\alpha = P \cdot 100/V (100 / b)$, where P is the weight of the soil sample in grams before embedding in paraffin, V is the volume of the soil sample in cm^3 , b is the moisture of the soil sample in percentages of the weight of absolutely dry soil. --
Ye. A. Dmitriyev.

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USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6059.

Author : Golovina, Ye. T.
Inst : Moscow Agric. Acad. im. K. A. Timiryazov.
Title : The Structure of Bottomland Soils.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 31, 268-272.

Abstract: The bottomland soils of the Moscow River are distinguished in various plots along its middle course by a high content of water-stable aggregates. The younger light loam soil of the land close to the river bed contains microaggregates of > 0.25 mm in diameter totaling about 30%, with 3.9% humus. In the loam soils of the central

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6058.

Abstract: brought to the mark on the control tube by raising the separating funnel. The soil volume is determined by the change in water level in the buret. The specific weight of the soil α is computed according to the formula:
 $\alpha = P \cdot 100/V (100 / b)$, where P is the weight of the soil sample in grams before embedding in paraffin, V is the volume of the soil sample in cm^3 , b is the moisture of the soil sample in percentages of the weight of absolutely dry soil. --
Ye. A. Dmitriyev.

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USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6059.

Author : Golovina, Ye. T.
Inst : Moscow Agric. Acad. im. K. A. Timiryazov.
Title : The Structure of Bottomland Soils.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 31, 268-272.

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of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6059.

Abstract: floodland the content of water-stable micro-aggregates is > 0.25 mm 42-61%; humus 5.1%. The greatest amount of humus is contained by large aggregates > 3 mm at 5.5-6.7%. The gley kinds in the bottomland soils, despite the lower humus content, are characterized by a high content of aggregates > 0.25 mm. -- S. A. Nikitin.

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of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6066.

Author : Tanzybayev, M.
Inst : Not given.
Title : The Water Regime of Dark Chestnut Soils of
Khakass in Field Rotation of Crops.

Orig Pub: S. kh. Sibiri, 1957, No 6, 24-30.

Abstract: In Khakass dark chestnut soils are distinguished by unfavorable physical-water properties, - by their compactness, their low field water capacity and their low water permeability. The productive water stores in a 1 meter layer of fallow soil are 2 - 4.5 times higher than in a virgin soil. In the experiments which were conducted, a fallow

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of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6066.

Abstract: soil for one hour of observation soaked up 1834 tons per hectare, whereas 1683 and 511 tons per hectare were soaked up under spring wheat and by a virgin soil, respectively. Soils with perennial grasses of the second year consumed 2.5 times less water than an oat field, and 6.5 times less than one lying under fallow. Rotation of crops on fallow with a shortened period of rotation should serve as a basis for farming in Khakass.

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USSR / Soil Science. Physical and Chemical Properties J
of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6069.

Author : Zhigalov, I. I.; Grishin, I. S.
Inst : Not given.
Title : Moisture Losses Due to Evaporation from a Snow Covered Surface and from the Soil During the Period of Snow-Thawing and the Flow of Thawed Waters.

Orig Pub: Pochvovedeniye, 1957, No 12, 107-111.

Abstract: Moisture evaporation in Moskovskaya Oblast' from a snow covered surface at snow-thawing time amounts to 2-3 mm. as measured in the course of 7 - 9 days. Evaporation from the surface of frozen soil and the flow of thawed waters in the

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of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6069.

Abstract: same period amounts to 12.7 - 17.6 mm. for tilled soils. Satisfactory results could not be obtained in calculating the overall moisture evaporation from a snow covered surface using the Assmann psychrometer (large size model) and the Fuss anemometer. -- S. A. Nikitin.

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USSR / Soil Science. Physical and Chemical Properties J
of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6070.

Author : Uspenskaya, A. A.
Inst : Darwin Preserve.
Title : The Influence of the Rybinskiy Water Reservoir on the Oxygen Content in Soil-Ground Waters of Heated Areas.

Orig Pub: Tr. Darvinsk. zapovedn., 1957, vyp. 4, 492-498.

Abstract: The oxygen content in ground water from the heated zones of Rybinskiy water reservoir within the boundaries of Yaroslavskaya Oblast' decreased in proportion to the rise in the water table. In the zone exposed to maximum heating, the oxygen content decreased to zero, but in the

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6070.

Abstract: least warmed zone the oxygen content did not drop below 50% of saturation. The maximum oxygen content was observed in May, while in the summer the oxygen content decreased.

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6072.

Author : Askinazi, D. L.; Ginzburg, K. Ye.
Inst : Soil Institute, AS USSR.
Title : The Problem of Reducing Phosphorus Absorption in Acetic Acid Soil Extracts.

Orig Pub: Tr. Pochhv. in-ta AN SSSR, 1957, 50, 358-378.

Abstract: When determining the content of assimilable phosphorus in the soil with the aid of weak acid extracts, a one hour shaking of the soil with the acid is recommended with subsequent day-long steeping of the extracts. In the process of preparing acetic acid extracts a secondary absorption of soil phosphorus takes place, especially when working with soils that have an acidic

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Abs Jour: Ref Zhur-Biol., No 2, 1959, 6072.

Abstract: reaction. In the determination of free phosphorus in the soil, when use is made of Cook's mixture $[0.5 \text{ N. CH}_3\text{COOH} + 0.5\% \text{ H}_2\text{SeO}_3]$, selenic acid alone can replace Cook's mixture in the determination of free phosphorus. The selenic acid decreases the secondary absorption of soil phosphorus and allows one to obtain more satisfactory mobility characteristics of soil phosphates than the acetic acid extracts under consideration. -- S. A. Nikitin.

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USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6074.

Author : Kaurichev, I. S.
Inst : Moscow Agricultural Academy im. K. A. Timiryazev.
Title : Forms of Iron in the Top Water Layer Soils of the Turf-Podzolic Zone.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 31, 219-223.

Abstract: The study of iron forms in the top water layers of turf-podzolic, gley and humus-~~peat~~ soils was carried out according to the Shidlovskaya-Ovchinikova method at the forest summer resort of the Moscow Agricultural Academy im. K. A. Timiryazev. The generally insignificant amount of Fe in the top water layer under the forest was observed

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of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6074.

Abstract: (from 1.5 - 3 milligram per liter to 9 milligram per liter), and its significant content in the bottomland of top water layer soil. Under electrodialysis of especially prepared solutions, obtained by gleying the cover of argillaceous soils under the influence of water soluble decomposition products of birch leaves, coniferous needles of pine trees, and hay having a high content of soluble-bound forms of Fe, - a significant amount of Fe was found in the anode compartment, a phenomenon that can be explained only by the presence of organic-iron compounds of a complex nature. -- E. A. Koroblyum.

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USSR / Soil Science. Physical and Chemical Properties J
of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6076.

Author : Verner, A. R.; Golyakov, N. M.
Inst : Not given.
Title : The Toxicity of Salts in Reclaimed Bog Soils of Baraba.

Orig Pub: Pochvovedeniye, 1956, No 8, 101-104.

Abstract: Tentative data on salt concentrations in a soil solution of peat-bog soil is obtained, and the salt composition toxic to oats, barley, wheat and fodder grasses is determined. A concentration of the soil solution (10 grams per liter and higher) leads to a sharp reduction in oat and wheat sprouts. With a salt concentration

Card 1/2

USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6076.

Abstract: below 6 grams per liter their action on plant growth becomes hardly noticeable. On grasses, according to the data of general concentrations, an analogous mechanism is apparent. -- Z. N. Kauricheva.

Card 2/2

USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6077.

Author : Batalin, A. Kh.
Inst : Not given.
Title : A Rapid Method for the Detection of Small Quantities of Manganese in the Soil.

Orig Pub: Pochvovedeniye, 1947 [?], No 9, 124-125.

Abstract: A method is proposed, based on the oxidation of divalent manganese to four-valent manganese according to the scheme:
$$\text{MnSO}_4 + 2\text{NaOH} \rightarrow \text{Mn(OH)}_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{Mn(OH)}_2 + \text{O} \rightarrow \text{H}_2\text{MnO}_3$$

and the formation by it of a colored compound with p-anisidine /the methyl ether of p-aminophenol $\text{H}_2\text{NC}_6\text{H}_4\text{OCH}_3$ / in a weakly acid medium.

Card 1/2

USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6077.

Abstract: ium (pH about 6.8). Using oxalic acid, the determination of Mn content in the presence of all cations, with the exception of strong oxidizing agents, can be made. The presence of ferric oxide, cupric oxide, mercuric oxide and silver oxide inhibit the oxalic acid. In the determination of manganese in the soil, if ferrous oxide salts are interfering, they are broken down by strong alkali and are bound into a stable complex with the aid of oxalic acid. -- L. N. Pankratova.

Card 2/2

USSR / Soil Science. Physical and Chemical Properties of Soil. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6079.

Author : Rudin, V. D.; Shcherbakova, S. S.
Inst : Not given.
Title : The Cobalt Content of Several Soils of the Stavropol'skiy Kray.

Orig Pub: Materialy po izuch. Stavropol'sk. kraya, Vyp. 8, 1956, 349-354.

Abstract: For the determination of cobalt in soil a colorimetric method was employed using nitroso-R salt (1-nitro-2 naphthol-3,6, sodium disulphonate). The latter forms with cobalt a characteristic complex compound of orange-red coloration. Fe, Ni, Cu, Mn and Zn do not interfere with the use of R-nitroso salt. Data is cited as to the co-

Card 1/2

USSR / Soil Science. Physical and Chemical Properties. J
of Soil.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6079.

Abstract: balt content of various Stavropol' soils. The greatest cobalt content was observed in Cis-Caucasian chernozem soils with an average thickness (0.90-0.31), while the smallest amount was observed in brown sandy soils (0.35 - 0.05 mg. per 100 grams of soil). In samples of investigated soils the cobalt content in the tillable horizon A was everywhere greater than in horizon B. Sinking deeper into horizon C, the cobalt content increases. This explains the loss of cobalt by the plant roots. Bibliography contains 8 titles.
-- L. N. Pankratova.

Card 2/2

USSR / Soil Science. Fertilizers. General Problems. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6081.

Author : Baranov, P. A.
Inst : Not given.
Title : Mineral Fertilizers and Agricultural Productivity. (From a Foreign Experiment).

Orig Pub: Udobreniye i urozhay, 1958, No 2, 58-61.

Abstract: The general consumption of mineral fertilizers in world agriculture (in nutrients) increased in the years 1913 - 1956 by 4.7 times. The consumption of nitrogen fertilizers increased to a greater degree (12.5 times) than phosphorus fertilizers (3 times). The amount of nitrogen applied to 1 hectare of farming land in Europe increased in the year 1956 in comparison to the

Card 1/3

USSR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6081.

Abstract: year 1913 from 3 - 4 kg to 10 kg, and in U.S.A. by 17 times. In countries with a predominance of pasture lands over plowlands the consumption of nitrogen in comparison with phosphorus is insignificant (Australia 0.04 - 0.05 kg of nitrogen per hectare, and 1.3 kg of phosphorus per hectare; New Zealand 0.3 kg of nitrogen per hectare and 16.3 kg of phosphorus per hectare). In countries where in the period of 1913 - 1956 an increase in the use of mineral fertilizers, particularly nitrogen fertilizers, is observed, the grain crop (of wheat) for this period increased by 2.5 - 3 times (and the productivity of livestock raising by 8 - 10 times). An especially clear cut case can be seen in the instance of Germany (the Federal Republic of West Germany in the year 1955). In that

Card 2/3

USSR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6081.

Abstract: country, in the post war years, the use of mineral fertilizers on meadow and pasture lands brought the productivity of livestock raising to 305 centners of meat per 100 hectares of farming lands and indirectly, due to the increase of the amount of manure, effected an increase of crops (their average productivity after the war based on seed grain was 32 centners per hectare). -- O. P. Medvedeva.

Card 3/3

GDR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6083.

Author : Selke.

Inst : Not given.

Title : Nutrient Soil Maps for Fertilizer Utilization.

Orig Pub: Mitschurinbewegung, 1957, 6, No 23, 1057-1062.

Abstract: Procedures for the compilation of maps on soil nutrient and lime requirements are reported. The work was carried out at the Agricultural Institute at Potsdam (in the German Democratic Republic). Determined was the content of free forms of P, K, and pH of the soil as a requirement indicator of lime; the elements were designated on the chart as follows: P - by a small circle, K - by a triangle, and pH - by a parallelogram, using the colors of blue, yellow and rose, res-

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GDR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6083.

Abstract: pectively. The blue color showed soil completely supplied with the appropriate element, the yellow color indicated a sufficient amount of the element under consideration, while the rose color indicated insufficiency. Alongside the small circle (triangle and parallelogram) numbers were inserted designating the amount of the appropriate fertilizer that should be applied to the soil in order to bring it up to full efficiency. With respect to P, doses are also indicated, to be applied under various plants when there are limiting and sufficient fertilizer stores on the farm. -- A. M. Shchepetil'nikova.

Card 2/2

USSR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6087.

Author : Vitko, A. M.
Inst : L'gov Experimental Selection Station.
Title : Agrotechny and Economical Efficiency of Fertilizers in Crop Rotation.

Orig Pub: Byul. nauchno tekhn. inform. L'govsk. opytno-selekts. st., 1958, vyp. 1, 5-8.

Abstract: Since the year 1937 an experiment has been carried out by the L'gov Experimental Station to clarify the influence of manure doses and mineral fertilizers on plant crops in crop rotation. In an 8-field crop rotation before sugar beets the following, in kilograms per hectare, were successfully applied: N10 P15 K10, and under deep plowing N30 P40 K40. 12.5 tons of manure per hectare was in-

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USSR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6087.

Abstract: introduced into a clean fallow under winter wheat, and 20 kilograms of P per hectare were introduced at the time of sowing, while 20 kilograms of N and 10 kilograms of K per hectare were applied the previous spring. Mineral fertilizers were also distributed, placing them under winter rye. Under spring wheat phosphorus-potassium fertilizers were applied under plowing, while nitrogen fertilizers were introduced under pre-sowing cultivation. Perennial grasses were side-dressed with phosphorus-potassium fertilizers after the cover crops were removed. To one hectare of plowland in one rotation the following were applied: 1.7 tons of manure, 14 kilograms of nitrogen, 22 kilograms of P₂O₅, and 17 kilo-

Card 2/3

USSR / Soil Science. Fertilizers. General Problems.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6087.

Abstract: grams of K_2O (an ordinary dose). The effectiveness of an ordinary dose of fertilizer based on direct and delayed action on seed plants was determined by the average increase in the grain crop, - 3 centners per hectare or 16%, while a double dose yielded 4.7 centners or 25%. The increase of garden beet roots was comprised as follows: a 33% increase from an ordinary dose, and a 52% increase from a double dose. -- L. D. Stonov.

Card 3/3

USSR / Soil Science. Fertilizers. Organic Fertilizers.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6090.

Author : Pan'kov, Yu. V.

Inst : Not given.

Title : The Proper Utilization of Fertilizers by Light Chestnut Soils of the Buryat-Mongol Autonomous Socialist Republic.

Orig Pub: V. sb.: Materialy po izuch. proizvodit. sil Buryat-Mong. ASSR. Vyp. 3, Ulan-Ude, 1957, 511-514.

Abstract: Experiments carried out for many years by the Onokhoyskaya Selective Station showed the high effectiveness of manure when applied to the fallow under grain plants. The increase of the wheat crop from half-rotted manure under summer double plowing amounted to 40%, from fresh man-

Card 1/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6090.

Abstract: ure it amounted to 48%, and from the joint application of manure and mineral fertilizers the increase amounted to 53% in comparison with the crop grown on an unfertilized fallow. The manure placed on the fallow has also a beneficial effect on subsequent plants. Studied also was the effectiveness of the compost prepared from ordinary manure and an admixture of 2-3% of P. This compost, according to its effectiveness, yields little to manure introduced in a double dose. Nitrogen and Phosphorus containing fertilizers have a fundamental significance for the raising of grain crops on light chestnut soils. Potassium fertilizers do not raise the crop of grain plants, but they should be utilized under vegetables, potato plants, tobacco plants, and

Card 2/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6090.

Abstract: feed roots. Under conditions of the Buryat-Mongol Autonomous Socialist Soviet Republic, the greatest effect is given by mineral fertilizers applied to the fallow under summer treatment, in comparison with their introduction in the spring under pre-sowing treatment of the soil (in view of the arid spring). -- L. D. Stonov.

Card 3/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6093.

Author : Kurbatov, I. M.

Inst : Belorussiaa Agric. Academy.

Title : Achievements of Soviet Science in the Study of
the Nature of Peat.

Orig Pub: Tr. Belorussk. s.-kh. akad., 1957, 26, No 2,
53-60.

Abstract: The author does not consider the mixing of manure and peat to be expedient, since, in the experiments conducted, peat-manure composts, when used as fertilizers, did not show advantages in comparison with the use of bottom peat partly enriched with azotobacter. When peat is used as a fertilizer, one has to take into account its slow

Card 1/2

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6093.

Abstract: mineralization, and hence its fertilizing activity is spread over a period of many years. --
M. L. Yaroshenko.

Card 2/2

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6094.

Author : Volkova, V. I.

Inst : Karelian Affiliate AS USSR.

Title : Procedures for Mechanized Preparations of Biologically Active Peat Fertilizers in the Stratum.

Orig Pub: Tr. Karel'sk. fil. AN SSSR, 1957 (1958), vyp. 9, 117-133.

Abstract: In experiments carried out in Karelia, it was established that the use of untreated peats as fertilizers results in an insignificant increment of the crop even in the year of application into the soil. The low biological activity of the majority of peat soils leads to retarded mineralization of organic matter, the result being that N and P cannot be transferred in sufficient amounts

Card 1/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6094.

Abstract: to compounds accessible to plants. The application of lime, mineral fertilizers (potassium and phosphorus), and organic materials (manure, a mixture of manure and soil) rich in microflora to peat enables the activation of biological processes in it. The preparation of peat fertilizers took place directly in the stratum of the mineral bog on large scale plots with the application tractor drawn implements. Plowing of the reclaimed swampy section was carried out with a PKB-56 marsh-bush plow to a depth of 30 centimeters. After plowing the following was introduced: 6.5 tons of lime per hectare, 5 centners of mineral fertilizers per hectare, superphosphate, and 3 centners of potassium chloride per hectare, as well as manure, a mixture of manure and local soil

Card 2/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6094.

Abstract: (in a 1 : 1 ratio) in the amount of 60 tons per hectare or preparation AMB in the amount of one ton per hectare. The fertilizers were distributed by means of a BDT-2,2 disk cultivator in 2-3 furrows. The peat fertilizers prepared in the stratum were tested the following year on medium tilled peat-podzolic light-argillaceous soil using a turnip plant (according to the stratum of perennial grasses). Peat-type fertilizers surpassed manure in their fertilizing action. The absolute crop increase of the turnip amounted to 156-178 centners per hectare. Mentioned is also the high after-effects of peat-type fertilizers on barley.
-- L. D. Stonov.

Card 3/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6095.

Author : Koshelev, Ya. P.

Inst : Not given.

Title : The Comparative Effectiveness of Peat Composts and Manure.

Orig Pub: Kartoffel', 1958, No 2, 16-17.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6096.

Author : Valovnenko, D. K.

Inst : Zhitomirskaya Oblast' Scientific Society for
the Dissemination of Political and Scientific
Knowledge.

Title : Stubble Sowing of Lupine as Green Manure Under
Potatoes and Corn.

Orig Pub: Byul. sil'skogospod. inform. Zhitom. obl. vid.
t-va dlya poshir. polit. ta nauk. znan' 1957,
No 4, 89-91.

Abstract: A survey of the work of the Poleskaya Oblast'
Agricultural Experimental Station from 1918 to
1951 on the influence of green manure (lupine)
on potato and corn crops is presented. When
yellow lupine is stubble sowed for green manure

Card 1/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6096.

Abstract: after winter rye, wheat and barley the sowing
rate amounted to 160 - 170 kg. per hectare and
with blue lupine it was 200-220 kg. per hectare.
Before sowing the seeds are treated with nitrogen.
The crop after lupine depends on the amount of
plowed in green matter, and not on the lupine
variety. The addition of 10 tons per hectare of
green matter to the tilled land increased the po-
tato crop to 33 centners per hectare, while the
addition of 20 tons per hectare increased the
crop to 74.5 centners per hectare, and the addi-
tion of 30 tons per hectare increased the crop to
96.5 centners per hectare. According to data
with corn for the years 1950-1951, the plowing
of lupine stubbles increased the corn cob crop
(in the dry state) to 15.8 centners per hectare,

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USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6096.

Abstract: and that of dry seed to 12.7 centners per hectare, while the corn cob crop in the control was 26 centners per hectare and that of the seed was 21.3 centners per hectare. Such an increase in the crop was observed with the application of 20 tons per hectare of manure, the crop of dry corn cobs was by 16.8 centners per hectare greater than in the control, and that of seed by 13.5 centners per hectare greater than in the control. The availability of a great amount of green matter depends in many respects on the presence of sufficient moisture in the soil connection with which the sowing of lupine stubbles should be applied as soon as possible. -- Ye. M. Tsvetayeva.

Card 3/3

USSR / Soil Science. Fertilizers. Organic Fertilizers. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6097.

Author : Buzinov, P. A.; Serebryakova, N. V.

Inst : Not given.

Title : The Utilization of Waste Products from the
Essential Oil Industry for Fertilizers.

Orig Pub: Maslob.-zhir. prom-st', 1958, No 4, 39-40.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6098.

Author : Bakhtin, P. U.

Inst : AS USSR.

Title : Evaluation of the Water System of Soils Under Normal Cultivation and According to the T. S. Mal'tsev Method During 1955-1956.

Orig Pub: Izv. AN SSSR. Ser. biol., 1957, No 4, 431-444.

Abstract: Observations were conducted at the Shadrinskaya and Kurganskaya experimental stations on chernozem soils, meadow-chernozem soils, and on meadow-steppe soils. Compared with normal plowing, deep moldboardless plowing raises the water permeability in a 100 centimeter layer by 14 - 74 mm., decreases the moisture capacity, and increases the

Card 1/3

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6098.

Abstract: loss of moisture through evaporation during a rainless summer period. On slopes, plowing without a moldboardless enabled deep soaking of the soil and the raising of water reserves in it during the autumn and spring seasons. Deep fallows for defrosting and sowing of the soil often contain moisture in an easily accessible form in greater amounts than do normal fallows, but this advantage disappears within 2-3 weeks after sowing, and, in some instances, even before sowing time. The advantage of deep fallows over normal ones as to the water regime of soils in the summer was observed only during periods of abundant rainfalls. The difference of the water regime of soils after plowing with a moldboard to a depth

Card 2/3

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6098.

Abstract: of 20-22 cm. and disking at 5-8 cm. is insignificant in soils with close subsurface waters, and rises sharply in the meadow-steppe type of chernozem soils with deep seated subsurface waters when plowing with a moldboard is applied.
-- Ye. A. Dmitriyev.

Card 3/3

GDR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6099.

Author : Ermich, D.
Inst : Not given.
Title : Research on Tillable Soil Consolidation.

Orig Pub: Dtsch. landwi rtsch., 1957, 8, 400-405.

Abstract: The consolidation of soils which are cultivated with agricultural machines can be lowered through their incorporation of green organic fertilizers, muck and nitrogen fertilizers. In this way the initial size of air pores is maintained, the elasticity of the soil mass is raised, and the biological activity of the soil is intensified. Synthetic preparations when properly applied can also raise the soil resistance against consolidation. A basic factor in the struggle of soil structure

Card 1/2

GDR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6099.

Abstract: breakdown appears to be a reduction in the weights of tractors. An increase in wheel area by adding double hoops, and the use of grated wheels also lower the extent of soil consolidation. The work was carried out at the Institute of Agriculture of the German Democratic Republic, in Jena. -- G. N. Nesterova.

Card 2/2

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6100.

Author : Rumyantsev, V. I.
Inst : Timiryazev Agric. Academy.
Title : Experiment of Increasing and Conserving Soil Moisture in the South-East.

Orig Pub: Izv. Timiryazevsk. s.-kh. akad., 1957, No 5, 215-224.

Abstract: It is recommended in Buzulukskiy Rayon Chkalovskaya Oblast' that deep plowing of stubble (about 10 centimeters) be applied in arid years to insure a significant accumulation of moisture in cultivated soils.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6101.

Author : Gromyko, I. D.; Panov, N. P.
Inst : Moscow Agric. Acad. im. K. A. Timiryazev.
Title : A System of Soil Treatment in Northern Districts
of Pavlodarskaya Oblast'.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva,
1956, 1, No 26, 198-204.

Abstract: In the northern districts of Pavlodarskaya Oblast' a six-field crop rotation system using tilled fallow is recommended: Fallow strip; spring wheat; tilled fallow crop corn or sunflower; spring wheat; barley, oats. Considered are means of soil treatments in crop rotations. The work was carried out in Irtyshskiy Rayon.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6102.

Author : Bocharova, A. S.
Inst : Not given.
Title : Deep Plowing of Common Chernozem Soils.

Orig Pub: Kukuruz, 1958, No 3, 28.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6103.

Author : Grigor'yev, N. Ya.
Inst : Moscow Agric. Acad. im. K. A. Timiryazev.
Title : The Comparative Effectiveness of Various Plowing and Fallow Treatments of the Soil in Stalingradskaya Oblast'.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 28, 129-135.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6104.

Author : Frenkel', Ye. M.
Inst : Moscow Agric. Acad. im. K. A. Timiryazev.
Title : Creation of an Experimental Deep Tillable Horizon in Grey Loess-Steppe Soils of the Southern Moscow Suburbs.

Orig Pub: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, 1957, vyp. 28, 96-100.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6105.

Author : Shabunina.

Inst : Not given.

Title : Processing the Perennial Grass Layer on Peat-Bog Soils.

Orig Pub: Sel'sk. gospadarka Belarusi, 1957, No 7, 15.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6107.

Author : Varuntsyan, E. S.

Inst : Not given.

Title : Experimental Utilization of Salted Soils of Kura-Araksinskaya Lowlands of the Azerbaijan Socialist Soviet Republic.

Orig Pub: V. sb.: Materialy Ob'yedin. nauchn. sessii po khlopkovodstvu. T. 3. Tashkent, Gosizdat UzSSR, 1958, 298-314.

Abstract: The effectiveness of the Dzhafarkhan /Azerbaijan/ drainage system during the period of 1956-1957 is described. For the distillation of waters from soils and from ground waters a significant increase of the flushing rate and the

Card 1/2

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6107.

Abstract: construction of supplementary temporary drains, having a depth of not less than 3 meters, is recommended. -- V. S. Muratova.

Card 2/2

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6108.

Author : Romanov, V. M.

Inst : AS USSR.

Title : The Problems of Choosing Automatic Irrigation Systems.

Orig Pub: Tr. Aralo-Kaspiysk. kompleksnoy ekspeditsii.
AN SSSR, 1957, vyp. 8, 98-119.

Abstract: ~~W~~ Mirzachul'skiy Rayon in Tashkentskaya Oblast' and in the irrigated districts of the Golodnaya steppe three kinds of automatic furrow irrigation systems were employed: 1. Open furrows with an overflow spillway /? under slight pressure and saturating the soil with water at a small rate, 2. slightly inclined blind furrows

Card 1/3

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6108.

Abstract: without a spillway where the greater part of the water saturates the soil under pressure, and 3. blind furrows having a medium slope without a spillway. The first kind of irrigation system is used in the presence of common slopes not less than 0.003° and maximum slopes of 0.008° . For slightly inclined blind furrow irrigation, the longitudinal furrow slope should be not less than 0.002° , and for the third kind of irrigation - from 0.002° to 0.004° . Irrigation with a fault is accompanied by losses of water and nutrients which are transported away by the water, and therefore the use of the overflow waters is utilized within the boundaries of the irrigated section. The use of slightly inclined blind furrows is most efficient and insures better meliorative

Card 2/3

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6108.

Abstract: composition of soils. The planning of soils to be irrigated permits the organization of the most perfect means of irrigation, thus improving the water utilization and uniformity of field moistening. -- M. K. Deulina.

Card 3/3

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6109.

Author : Biryukova, A. P.

Inst : Not given.

Title : The Influence of Irrigation on Soils of the
Southern Outskirts of the Lower Syrtov Plain.

Orig Pub: Pochvovedeniye, 1957, No 8, 32-38.

Abstract: Cited are several experimental results of estuary irrigation of chestnut saliferous soils and solonetz soils in the basin of the Eruslan river in Saratovskaya Oblast'. A strongly developed microrelief and irregular distribution of irrigation water in the experimental section caused uneven de-salination of the soil. Weakly and average solonetz chestnut soils of microdepressions have for 10 years caused significant distillation

Card 1/2

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6109.

Abstract: of water in the whole profile. The humus content in the soils increased by 3-34% compared with their initial content. Solonetz soils and strong saliferous soils of microelevations have, on the contrary, enriched themselves with water soluble salts. The salting of these sub-solonetz soils depended on a secondary filtration and vertical movement of salts from capillary-suspended solutions. -- S. A. Nikitin.

Card 2/2

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6110.

Author : Novikova, A. V.

Inst : Not given.

Title : Results and Prospects of Melioration Research on
Solonetz Soils in the Crimea.

Orig Pub: Pochvovedeniye, 1956, No 8, 31-43.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6111.

Author : Buachidze, V. M.

Inst : Georgian Sci. Res. Inst. of Hydroengineering
and Reclamation.

Title : Certain Features of Irrigation at Samgori.

Orig Pub: Tr. Gruz. n.-i. in-ta didrotekhn. i melior.,
1957, vyp. 18-19, 34-40.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6112.

Author : Zlatkin, R. M.
Inst : Georgian Scientific Research Institute of
Hydroengineering and Reclamation.
Title : The Problem of the Irrigation Regime and Irrigation
Technique for Krtsnisskiy Sovkhoz in
Gareubanskiy Rayon in the Georgian Socialist
Republic.

Orig Pub: Tr. Gruz. n.i. in-ta digrotekhn. i melior.,
1957, vyp. 18-19, 45-62.

Abstract: No abstract.

Card 1/1

POLAND / Soil Science. Tillage. Reclamation. Erosion.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6113.

Author : Zabek, Stanislaw.
Inst : Not given.
Title : The Significance of the Composition of Irriga-
tion Water Under Agricultural Reclamation of
Sandy Meadow Soils, Using Lysimeter Experi-
ments With Grasses /in the Osobovitsy District,
Poland7.

Orig Pub: Roczn. gleboznawcze, 1956, 5, 203-219.

Abstract: No abstract.

Card 1/1

USSR / Soil Science. Tillage. Reclamation. Erosion.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6114.

Author : Sus, N. I.

Inst : Not given.

Title : Problems of Soil Protection from Erosion in
the USSR.

Orig Pub: Vestn. s.-kh. nauki, 1958, No 3, 102-109.

Abstract: A review of works dealing with soil protection from erosion under conditions found in the USSR is presented. Mentioned is the slight development of anti-erosion preventive measures which furthers the progress of the erosion process, particularly in the south-eastern part of the Russian Socialist Federated Soviet Republic. The problem of restoring the fertility of eroded soils has also not been cleared up. Examples are cited.

Card 1/1

BULGARIA / Soil Science. Tillage. Reclamation. Erosion.

J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6117.

Author : Biolchev, Asen.

Inst : Not given.

Title : Fundamental Problems of Soil Erosion in Bulgaria.

Orig Pub: Selskostop. mis"l, 1958, 3, No 4, 241-250.

Abstract: No abstract.

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